

AMENDMENTS TO THE CLAIMS

Applicants submit below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Currently amended) An assembler for a target microprocessor, the assembler comprising:
 - a descriptor file containing information descriptive of the instruction set of said target microprocessor;
 - a translation device for translating assembly language into machine language as an output;
 - a fetching device for acquiring data from said descriptor file; ~~and~~
 - a control device arranged to receive said data from said fetching device and said machine language from said translation device, and operable to constrain the machine language to conform to the architecture of said instruction set; and
 - a data transfer device arranged to output selected data fetched from said descriptor file directly to a linker.
2. (Previously presented) The assembler of claim 1 wherein the descriptor file further comprises syntax information for each instruction, and the control device constrains each instruction on the basis of said syntax information.
3. (Previously presented) A system for assembling a machine language program, comprising the assembler of claim 1 and further comprising a data capture device having an

input for accessing the instruction set of said target microprocessor and having an output, wherein said output comprises said descriptor file.

4. (Currently amended) A system for assembling a machine language program, comprising the assembler of claim 1 and further comprising a linker, ~~wherein the system has a data transfer device outputting selected data fetched from said descriptor file to said linker,~~ whereby said linker uses said ~~output~~ selected data to modify the translated output of said system.

5. (Currently amended) A method of assembling a machine language program for a target microprocessor comprising:

providing a descriptor file containing information descriptive of the instruction set of said target microprocessor;

translating assembly language instructions into machine language wherein the translation comprises:

directly transliterating the assembly language instructions to machine language;

acquiring data from said descriptor file; ~~and~~

constraining the directly transliterated machine language to conform to the architecture of said instruction set, thereby assembling the machine language program for the target microprocessor; and

transferring selected data acquired from said descriptor file directly to a linker.

6. (Previously amended) A method as claimed in claim 5 wherein said descriptor file further contains syntax information for each instruction of the instruction set, and said constraining step comprises constraining each assembly language instruction using said syntax information.

7. (Currently amended) A method of preparing a program executable on a target microprocessor comprising:

capturing data from the instruction set of said target microprocessor thereby forming a descriptor file containing information descriptive of said instruction set;
providing assembly language instructions for said target microprocessor;
translating each assembly language instruction into a corresponding machine language output; and

using data from said descriptor file, constraining the machine language output to conform to the architecture of said instruction set and transferring selected data from said descriptor file directly to a linker.

8. (Currently amended) A method of preparing a program executable on a microprocessor, comprising:

providing plural program modules, at least one of said modules having one or more instructions including external symbols, wherein external symbols have values which cannot be determined without reference to another program module;

providing a descriptor file containing information descriptive of the instruction set of said target microprocessor;

translating assembly language instructions into machine language wherein the translation step comprises:

directly transliterating the assembly language instructions to machine language;

acquiring data from said descriptor file; and

constraining the directly transliterated machine language to conform to the architecture of said instruction set; ~~and~~

transferring selected data acquired from said descriptor file directly to a linker; and

~~further comprising~~ binding external symbols to addresses using data selected from said descriptor file, thereby preparing the program executable on the microprocessor.